



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Fedcast C  
**Recommended use** For Industrial Use Only  
**Recommended restrictions** Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

### Manufacturer/Supplier information

**Company name:** FRC Global  
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## 2. Hazard(s) identification

**Classified hazards** This item is defined as an article per OSHA (29 CFR 1910.1200) and is therefore exempt from labeling. A Safety Data Sheet is available.  
This item is not hazardous per OSHA 29 CFR 1910.1200(c). However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. May cause respiratory irritation, lung injury, or cancer by inhalation. Limit skin contact. Wash hands after handling. Dispose of waste and residues in accordance with local authority requirements. Wear protective gloves/protective clothing/eye protection. Dust may cause cancer.

**Label elements** This item is defined as an article per OSHA (29 CFR 1910.1200) and is therefore exempt from labeling. A Safety Data Sheet is available.  
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Wear protective gloves/protective clothing/eye protection. Dust may cause cancer.

#### Hazard(s) not otherwise classified (HNOC)

This item is defined as an article per OSHA (29 CFR 1910.1200) and is therefore exempt from labeling. A Safety Data Sheet is available.

This item is not hazardous per OSHA 29 CFR 1910.1200(c). However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. May cause respiratory irritation, lung injury, or cancer by inhalation. Limit skin contact. Wash hands after handling. Dispose of waste and residues in accordance

### 3. Composition/information on ingredients

Chemical Name	Common Name/Synonyms	CAS Number	%
Aluminum Oxide (Non-Fibrous)	Al <sub>2</sub> O <sub>3</sub>	1344-28-1	80-95%
Calcium Oxide	CaO	1305-78-8	*
Titanium Oxide	TiO <sub>2</sub>	13463-67-7	*
Silica	Quartz	14808-60-7	*
Chromium (III) Oxide	Cr <sub>2</sub> O <sub>3</sub>	1308-38-9	*
Calcium Aluminate cement		65997-16-2	*

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

#### Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

#### Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

#### Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

#### Ingestion

Rinse mouth. Get medical attention if symptoms occur.

#### Most important symptoms/effects, acute and delayed

Direct contact with the eyes may cause temporary irritation.

#### Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep the victim under observation. Symptoms may be delayed.

#### General information

If concerned: Get medical advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

#### Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

## Unsuitable extinguishing media

Not available.

## Specific hazards arising from the chemical

Not available.

## Special protective equipment and precautions for firefighters

Not available.

## 6. Accidental release measures

### Personal precautions, protective equipment, and emergency procedures

Keep unnecessary personnel away. Keep people away from, and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

### Methods and materials for containment and cleaning up

Stop the flow of material if this is without risk. Following product recovery, flush the area with water. For waste disposal, see section 13 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses, or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep the formation of airborne dust to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in the original tightly closed container. Store away from incompatible materials. (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limit

#### US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<i>Components</i>	<i>Type</i>	<i>Value</i>	<i>Form</i>
Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction
Chromium (III) oxide (CAS 1308-38-90)	PEL	0.5 mg/m <sup>3</sup>	
Calcium Oxide (Cas 1305-78-8)	PEL	5 mg/m <sup>3</sup>	
Titanium Dioxide (CAS 13463-67-7)	PEL	15 mg/m <sup>3</sup>	Total dust

### US OSHA Table Z-3 (29 CFR 1910.1000)

<i>Components</i>	<i>Type</i>	<i>Value</i>	<i>Form</i>
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	TWA	0.3 mg/m <sup>3</sup> 0.1 mg/m <sup>3</sup> 2.4 mppcf	Total dust. Respirable. Respirable.

### US ACGIH Threshold Limit Values

<i>Components</i>	<i>Type</i>	<i>Value</i>	<i>Form</i>
Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
Chromium (III) oxide (CAS 1308-38-90)	TWA	2 mg/m <sup>3</sup>	
Silica (Quartz) (CAS 14808-60-7)	TWA	0.025mg/m <sup>3</sup>	Respirable fraction
Calcium Oxide (CAS 1305-78-8)	TWA	2mg/m <sup>3</sup>	
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m <sup>3</sup>	

### US NIOSH: Pocket Guide to Chemical Hazards

<i>Components</i>	<i>Type</i>	<i>Value</i>	<i>Form</i>
Chromium (III) oxide (CAS 1308-38-90)	TWA	0.5 mg/m <sup>3</sup>	
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	TWA	0.05 mg/m <sup>3</sup>	Respirable dust.
Calcium Oxide (CAS 1305-78-8)	TWA	2mg/m <sup>3</sup>	

#### Biological limit values

No biological exposure limits were noted for the ingredient(s).

#### Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

#### Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Wear safety glasses with side shields (or goggles).

##### Skin protection

##### Hand protection

Wear appropriate chemical-resistant gloves.

<b>Other</b>	Wear suitable protective clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	Use a NIOSH/MSHA-approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary
<b>General Hygiene Considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

<b>Appearance</b>	
Physical state	Solid.
Form	Solid.
Color	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
Solubility (water)	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage, and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction is known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials. Refractories containing crystalline silica may, after service, contain more or less crystalline silica. Care must be taken to avoid and/or control dust from demolition. If in doubt of the proper protection, seek advice from a safety professional.
<b>Incompatible materials</b>	Strong oxidizing agents. Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure. Contact your sales representative for clarification.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Direct contact with the eyes may cause temporary irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

### Symptoms related to the physical, chemical, and toxicological characteristics:

Direct contact with the eyes may cause temporary irritation.

### Information on toxicological effects

<b>Acute toxicity</b>	Not available.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Direct contact with the eyes may cause temporary irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

### Carcinogenicity

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However, in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent

on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibers, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Chromium (III) oxide (CAS 1308-38-9)	3 Not classifiable as carcinogenicity to humans.
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

**US National Toxicology Program (NTP) Report on Carcinogens**

Cristobalite (CAS 14464-46-1)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	Known to be a Human Carcinogen.

**US OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

	Not listed.
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

**12. Ecological information**

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or
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	frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bio-accumulative potential</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

<b>Disposal instructions</b>	This product, in its present state, when discarded or disposed of, is not hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.
<b>Hazardous waste code</b>	Not applicable.
<b>Waste from residues / unused products</b>	Not available.
<b>Contaminated packaging</b>	Not available.

### 14. Transport information

<b>DOT</b>	Not regulated as dangerous goods.
<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.

### 15. Regulatory information

<b>US federal regulations</b>	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All chemical substances in this product are listed on the TSCA chemical substance inventory where required.
<b>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)</b>	Not regulated.
<b>CERCLA Hazardous Substance List (40 CFR 302.4)</b>	Not listed.
<b>SARA 304 Emergency release notification</b>	Not regulated.
<b>US.OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not listed.
<b>Superfund Amendments and Reauthorization Act of 1986 (SARA)</b>	
<b>Hazard categories</b>	Immediate Hazard - No



Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous Chemical**

Not listed.

**SARA 313 (TRI reporting)**

<i>Chemical Name</i>	<i>CAS number</i>	<i>% by wt.</i>
Aluminum Oxide (Non-Fibrous)	1344-28-1	80-95%

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not Regulated

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)**

Not regulated.

**US state regulations**

**US California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US Massachusetts RTK - Substance List**

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)

Titanium Dioxide (CAS 13463-67-7)

Quartz (SiO<sub>2</sub>) (CAS 14808-60-7)

Calcium Oxide (CAS 1305-78-8)

**US New Jersey Worker and Community Right-to-Know Act**

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)

Titanium Dioxide (CAS 13463-67-7)

Quartz (SiO<sub>2</sub>) (CAS 14808-60-7)

Calcium Oxide (CAS 1305-78-8)

**US Pennsylvania Worker and Community Right-to-Know Law**

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)

Titanium Dioxide (CAS 13463-67-7)

Quartz (SiO<sub>2</sub>) (CAS 14808-60-7)

Calcium Oxide (CAS 1305-78-8)

**US Rhode Island RTK**

Aluminum Oxide (Non-Fibrous) (CAS 1344-28-1)

**US California Proposition 65**

This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Quartz (SiO<sub>2</sub>) (CAS 14808-60-7) Listed: October 1, 1988

Titanium Dioxide (CAS 13463-67-7) Listed: September 2, 2011

**16. Other information, including date of preparation or last revision**

This information is supplied to be informative and to alert the user of the material. The ultimate compliance with federal, state, and/or local regulations concerning the use of this material, or compliance with respect to product liability, rests solely upon the purchaser thereof.

**Prepared by:** FRC Global  
**Date:** October 2020

DISCLAIMER: Reasonable care has been taken in the preparation of the information provided and believed to be correct as of the issue date. However, FRC Global makes no representation or warranties and assumes no responsibility as to the completeness and accuracy thereof. Users must make their own determination as to the suitability of the product for their purpose before use. FRC Global will not be responsible for any damages of any nature directly or indirectly whatsoever resulting from the use of, reliance upon, or misuse of the information contained herein.

**End of Safety Data Sheet**